REMARKS

Claims 1-48 and 54-60 were pending in this application. Claims 1, 14-20, 32-38, and 55-60 have been amended and claims 2, 13, 22, 31, 39 and 48 have been canceled. Support for the amended claims can be found at page 6, ¶21; page 22, ¶72; page 26, ¶89 and in original claims 2, 22 and 39. No new matter has been added.

Objections under 37 C.F.R. 1.75 (c) and 37 U.S.C. § 112

The Examiner has objected to claims 13, 31 and 48 under 37 C.F.R. 1.75 (c) for being in improper dependent form for failing to further limit the subject matter of a previous claim and under 35 U.S.C. § 112 for being indefinite. In this connection, the Examiner states that the term "polymeric carboxylic acid" covers polymers having multiple carboxylic groups, but not C2-C9 polycarboxylic acids, which the Examiner characterizes monomers. In response to these rejections, Applicants respectfully point out that C2-C9 carboxylic acids contain multiple carboxylic groups and thus qualify as "polymeric carboxylic acids". Nevertheless to advance the prosecution of this application, Applicants, have without prejudice, canceled claims 13, 31 and 48.

The Examiner has also objected to claims 14-19, 32-37 and 55-60 as being in improper dependent form for failing to further limit the subject matter of the previous claim under 37 C.F.R. 1.75(c) and for lacking antecedent basis under 37 U.S.C. § 112. To overcome these rejections, Applicants have amended the referenced claims to correct the typographical error which made them defective.

Claim Rejections under 35 USC § 102

The Examiner has rejected claims 1-7 and 14-19 under 35 U.S.C. § 102 (b) as anticipated by *Chatterjee* (U.S. Patent No. 3,932,209). Applicants respectfully traverse this rejection.

Contrary to the Examiner's citation, *Chatterjee* does not disclose the use of dicarboxylic acid cross-linking agents. Rather, *Chatterjee* teaches the use of condensation products of formaldehyde with another organic compound as a cross-linking agent (See Col. 2., lines 26-40). Since, *Chatterjee* does not disclose the use of a cross-linking agent which falls within the claims, the Section 102(b) rejection is improper.

Further, *Chatterjee* cannot be used to find the claims as amended obvious under §103, because the amended claims require that cellulosic fibers be caustic treated to the point that they have at least 8% hemicellulose and less than 15% knots after cross-linking. *Chatterjee* teaches that cross-linking a sheet of cellulosic fibers containing 8% or more hemicellulose results in a knot content of over 30% (See Col. 6, lines 55 to 68; and FIG. 6). Also, the absorbent capacity reported by *Chatterjee* cannot be compared to those in the instant application since they were obtained using different test methods. However, even if the absorbent capacities of *Chatterjee* and the present invention were to be comparable, by his own admission, *Chatterjee*'s method yields products with commercially unacceptable knot content when practiced with cellulosic fibers having a hemicellulose content of 8% or more. (See Col. 6, line 55 to Col. 7, line 16.)

In view of the foregoing, Applicants request that the Examiner withdraw the §102(b) rejection.

Claim Rejections under 35 U.S.C. § 103 (a)

The Examiner has also rejected claims 8-13 and 20 and 54-60 under 35 U.S.C. § 103(a) as being unpatenable over *Sun* et al. (U.S.P.N. 6,264,791) in view of *Chatterjee*. Applicants respectfully traverse this rejection.

Sun is directed to methods for making high wet performance webs. As the Examiner has recognized, *Sun* does not disclose fibers treated with caustic under non-mercerizing conditions. Further, *Sun* does not recite or suggest any advantage to the treatment of cellulosic fibers with caustic under non-mercerizing conditions to yield cellulosic fibers with hemicellulose content greater than 8%. Indeed, *Sun* does not address the problem which is the subject of the present application, namely making cross-linked cellulosic fibers in sheet form having absorbency properties which are equivalent or superior to those of fibers which are cross-linked in fluff or individualized fiber form. Rather, *Sun* is directed to an entirely different problem and would lead those skilled in the art to conclude that following *Sun's* teachings would yield a product having properties which would be adverse to the desired result.

As *Sun* discloses in his Abstract his "resulting tissue has high wet resiliency, high wet strength, and a high wet:dried tensile strength ratio." (Column 2, lines 45-86). Such strength characteristics of tissue webs occur by means of interfiber cross-linking reactions. Intrafiber cross-linking reactions, while enhancing absorbency, porosity and bulking characteristics, tend to reduce the strength of structures made with them. Thus, any reference teaching or disclosing improving the wet strength of a cellulosic fibrous web by "curing the compound to cross-link the cellulose fibers" (See Abstract of *Sun*) teaches away from the method of the present invention which recites curing the cross-linking agent on said sheet of caustic treated cellulosic fibers to form a sheet of fibers with intrafiber cross-links.

The Examiner recognized that *Sun* alone does not teach or suggest even the previously claimed invention, because the Examiner combined *Sun* with *Chatterjee* in his §103 rejection. While Applicants continue to argue that the Examiner's combination of *Sun* and *Chatterjee* is unwarranted without a suggestion in at least one of those references that they could be combined, Applicants have now amended the claims to make it clear that even if *Sun* and *Chatterjee* could be combined, their combination teaches away from the present invention.

As argued above, *Chatterjee* teaches that cross-linking a sheet of cellulosic fibers containing more than 8% hemicellulose results in a knot content of over 30% (see *Chatterjee* Col. 6, lines 55 to 68 and FIG. 6), which is commercially unacceptable. This teaches away from the present invention. Although *Sun* discloses the use of polycarboxylic acid cross-linking agents, it teaches that when applied to cellulosic fibers in sheet form they result in a product having high wet strength associated with fibers which are interfiber cross-linked. Since interfiber cross-linking is what causes knots, *Sun* combined with *Chatterjee* also teaches away from the invention.

In view of the foregoing, it is respectfully submitted that the combination of *Sun* and *Chatterjee* cannot suggest the presently claimed invention.

The Examiner also rejects claims 8-13, 20-48 and 54-60 under 35 U.S.C. §103(a) as being unpatentable over *Sears* (U.S. Patent No. 6,620,293) in view of *Chatterjee*. Applicants respectfully traverse this rejection. As the Examiner has correctly noted, *Sears* teaches the use of mercerized cellulose fibers whereas the presently claimed invention teaches the use of fibers which are treated with caustic under non-mercerizing conditions. *Chatterjee* teaches that cross-linking cellulosic fibers having 8% or more hemicellulose in sheet form results in a product with a knot content of over 30%. Nothing in *Sears* or *Chatterjee* teaches or suggests that if the cross-linking agent of *Sears* is substituted for the cross-linking agent of *Chatterjee*, it would be possible to cross-link cellulosic fibers having 8% or more hemicellulose in sheet form without experiencing the problem of excessive knots disclosed by *Chatterjee*. Under the circumstances, the Examiner's combination of *Sears* and *Chatterjee* actually teaches away from invention as the presently claimed.

For the foregoing reasons, it is submitted that the claims as amended are allowable and early issuance of a Notice of Allowability is respectfully requested.

The Commissioner is hereby authorized to charge any fee deemed necessary for the entry of this Amendment to Deposit Account No. 50-0540.

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